US Army Corps
of Engineers

USACE Library Program
Annual Report for FY 96
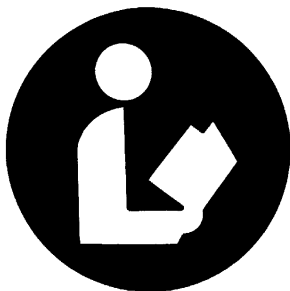
USACE Library Program Annual Report for FY 96

Prepared by

Carol L. McMillin, M.L.S.
USACE Library Program Manager

Information Technology Laboratory
U.S. Army Engineer Waterways Experiment Station

Contents

Library Program Manager's Message

Libraries are a sound investment in the future of the U.S. Army Corps of Engineers. Libraries can fulfill specific needs and satisfy certain requirements better and less expensively than any other alternative. Libraries add value and help achieve organizational goals by facilitating increased productivity and improving the quality of the work of the Corps of Engineers engineers and scientists.

Regardless of how you look at it, well-run libraries and professionals who know how to use them can save the Corps of Engineers a significant amount of money.

Libraries are also equally committed to preserving the past. The USACE Libraries are the repository of Corps achievements. The technical reports that are the end product of the work done throughout the history of the Corps of Engineers are maintained, preserved, organized, and accessed in the USACE Libraries.

Today's Corps of Engineers is a multidisciplinary force with expanded roles and an increasingly complex mission. Traditional engineering skills now work in tandem with research and development, natural resources management, real estate, environmental protection, public projects, and emergency response. With this growing diversity comes the driving need for concise, relevant, and timely information to address intricate problems — to influence major decisions. Within the Corps of Engineers, the efficient transfer of information from source to user rests in the hands of the professional librarians. Hiring professional librarians with an advanced degree and training in all areas of information retrieval provides for the needs of the scientists and engineers of the Corps of Engineers. These library professionals work closely with employees to provide fast, pertinent information to advance the mission of the Corps of Engineers.

CAROL McMILLIN
USACE Library Program Manager
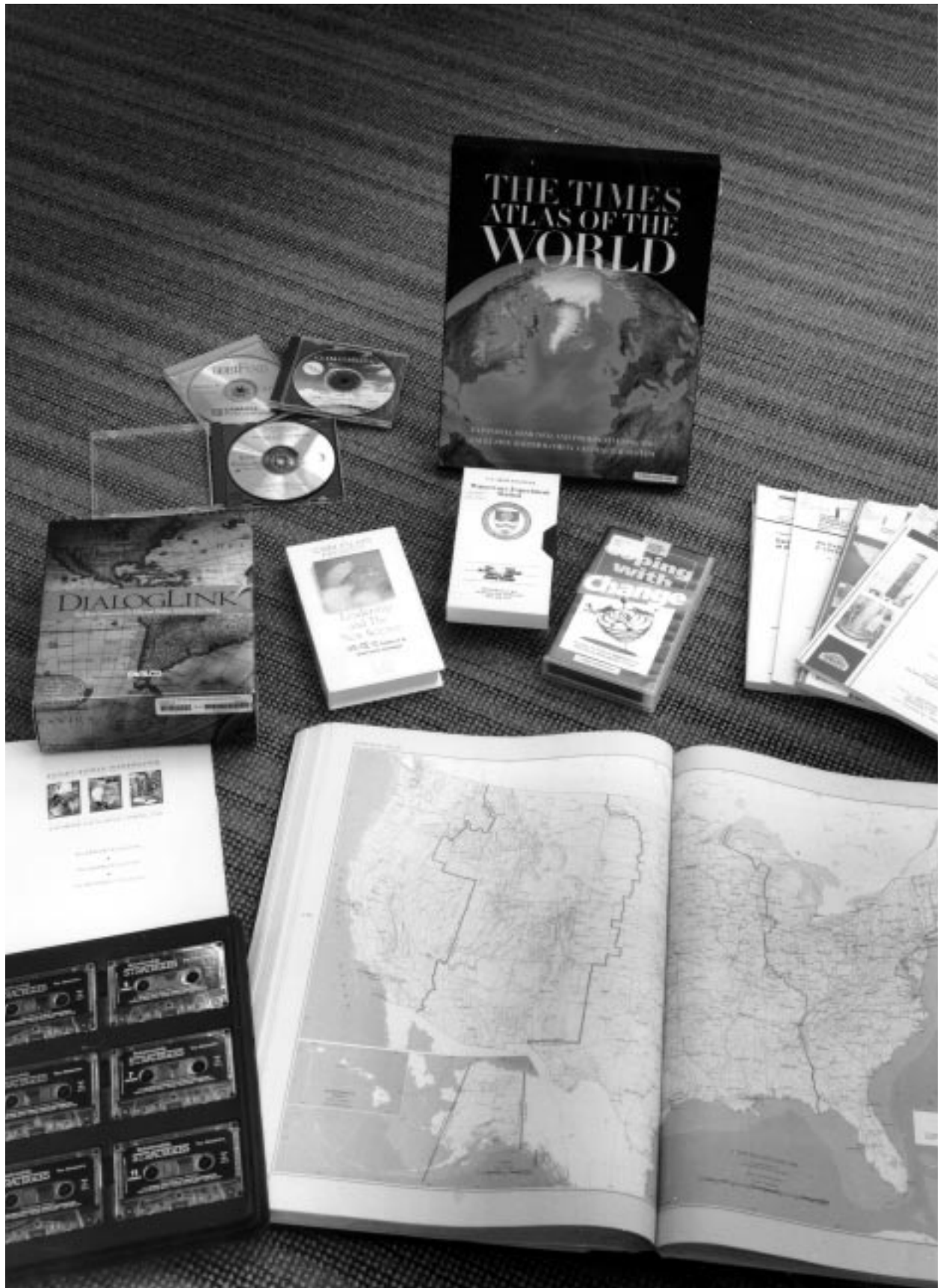
Our Mission

To retrieve and disseminate information as well as to provide access to information resources and services with a firm commitment to delivering the right information at the right price in the right format to the right people at the right time.

Our Vision

- To be the leading information navigator and supplier for the Corps of Engineers by providing equal and effective library/information services to all Corps of Engineers employees.

- To further develop a service-driven, customer-focused culture.

- To ensure a sound return on investment by increasing the productivity of users in their data-gathering efforts and reducing overall costs to the organization.

- To exist as a virtual service, using electronic media to allow information to be sought wherever it exists and used immediately by local or remote customers; to provide real-time information as a valuable competitive tool.

Our Goals

- Focus on customer-valued service.
- Improve remote access to information.
- Promote resource sharing with the USACE Library Network.
- Support professional staff at all locations.
- Ensure accountability of library property.
- Maintain integrity of information.
- Increase outreach activity.
- Improve planning and business processes.

> The USACE Library Program's Return on Investment for FY 96 was 2.93.
>
> Libraries are a sound investment!
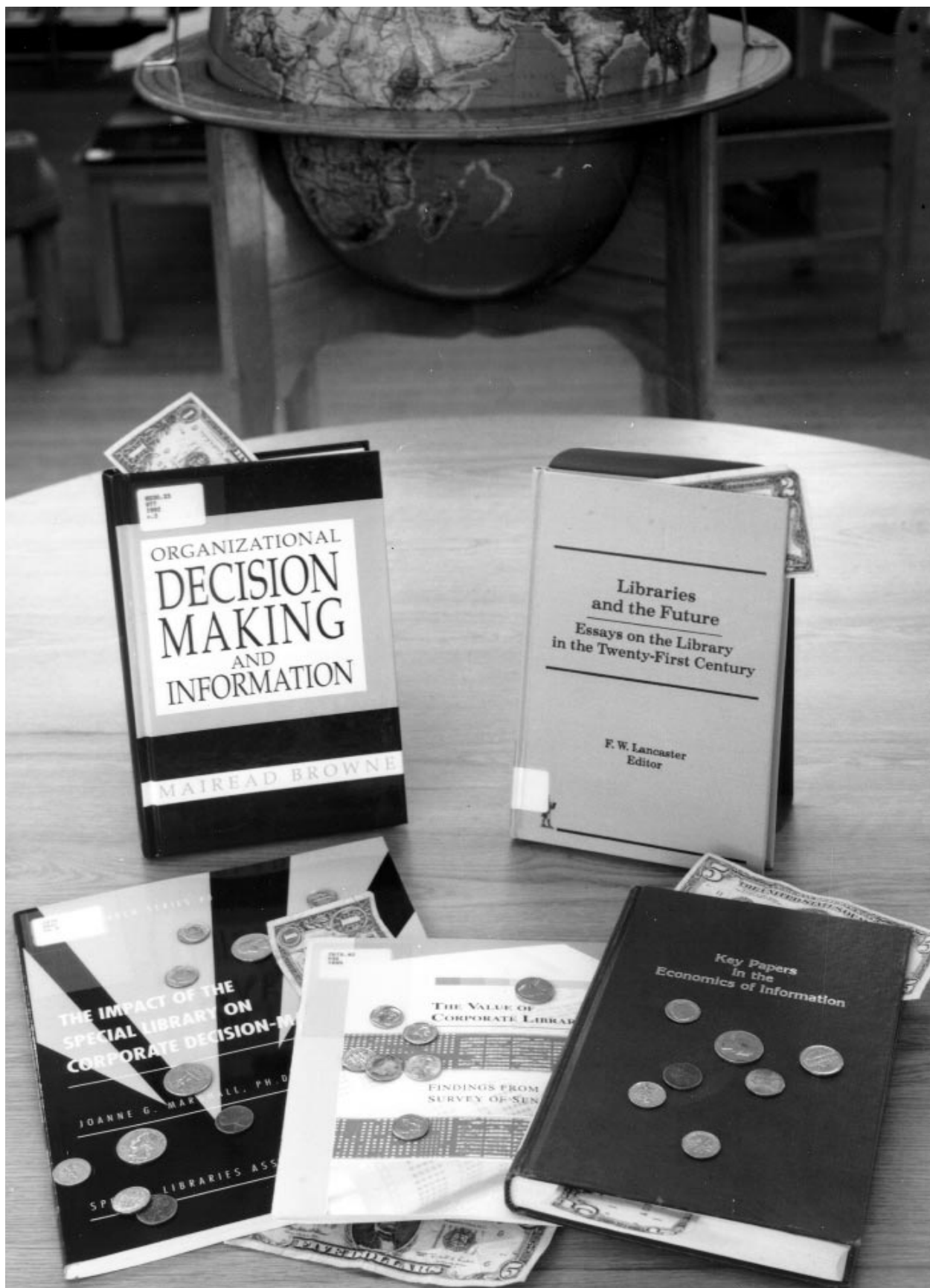
Library Services and Values

Library Service and Estimated Value	Number of Library Services*	Total Value of Library Service*
Literature searching - online database searching. Valued at $272.00 per search.	16,033	$4,360,976.00
Interlibrary loans borrowed for a customer. Valued at $138.00 per loan.	9,285	$1,281,330.00
Journals routed to customers. Valued at $57.31 per journal routed.	72,812	$4,172,855.72
Items circulated to a customer from the collection. Valued at $51.49 per item loaned.	24,932	$1,283,748.68
Reference questions answered for customers. Answers required <15 min of research. Valued at $7.50 each.	54,009	$ 405,067.50
Reference questions answered for customers. Answers required >15 min of research. Valued at $45.00 each.	20,909	$ 940,905.00
Number of items ordered specifically for a customer. Valued at $30.57 each.	77,631	$2,373,179.67
Number of article reprints purchased for customers. Valued at $138.00 per reprint.	3,759	$ 518,742.00
Number of photocopies made for customers. Valued at $29.27 per article.	6,477	$ 189,581.79
Use of CD-ROM workstations by customers. Valued at $16.67 per session.	11,740	$ 195,705.80
Use of card catalog by customers. Valued at $17.00 per session.	18,318	$ 311,406.00
Number of Current Awareness Alert Services in place. Valued at $56.90 each.	369	$ 20,996.10
Total Value for Library Services		$16,054,494.26
*Statistics are from a representative sample of 16 USACE Libraries (see Appendix A).		

Return on Investment

Library Budgets*	Value of Library Services	Return on Investment
$5,482,319.51	$16,054,494.26	1 to 2.93
* Based on statistics and budget figures from a representative sample of 16 USACE Libraries.		

Library Expenditures per Engineer/Scientist

Library Budgets FY 96*	Corps Engineers/ Scientists*	FY 96 Average Library Expenditure per Corps Engineer/ Scientist	1993 Average Library Expenditure per Professional in Library Study**
$5,482,319.51	5,699	$961.97 (Only 56.5% of the 1993 average from study cited)	$1,700.00
* Based on representative sample of 16 USACE sites and their libraries.			
** Study cited in: Griffiths, Jose' Marie, and King, Donald; "Special Libraries: Increasing the Information Edge," New York, Special Libraries Association, 1993.			

USACE Library Program Manpower

Manpower Summaries: (as of September 1996)

- Employees: 38,254
- Engineers and Scientists: 13,606
- Library Program Employees (including government and contract employees): 84
- Librarians only (including government and contract): 46

The Ratio of Library Staff to Customers:

- All Library Program Staffing to all Employees: 1 to 455
- All Library Program Staffing to all Engineers and Scientists: 1 to 161
- Librarians (only) to all Employees: 1 to 831
- Librarians (only) to all Engineers and Scientists: 1 to 295

Comparisons:

For comparison, the ratio of professional library staff to students and faculty or 100 major academic research libraries (Association of Research Libraries, ARL) is 1 professional librarian to 245 clients. The USACE figures are below this standard with 46 professional library staff members (librarians only) to serve 13,606 engineers and scientists throughout the USACE — a ratio of 1 to 295.

A recent survey conducted by library professionals and published by the Special Libraries Association concluded that a library staff (librarians, technicians, information specialists, and others) of 30 to 35 is required to serve 5,000 professionals (such as engineers and scientists). This is a ratio of 1 to 166 or 1 to 142. This figure was derived from 27 independent studies performed with 16 companies and 7 government agencies, and included 4 national surveys of professionals (more than 10,000 statistical

survey responses came from scientists, engineers, lawyers, management, and other professionals). Using this standard, the USACE should have a ratio of 84 to 98 library staff members to serve the 13,606 professional engineers and scientists it employs; it currently has 84 staff members (including librarians, technicians, contractors, and others) to serve their primary customers, the 13,606 engineers and scientists, a ratio of 1 to 295. The USACE Library Program also has the additional challenge of being geographically dispersed, while most libraries in this survey were not.

The current trend to downsize USACE Libraries could quickly undermine the ratio of library staff to engineers and scientists. Downsizing the Library Program further could seriously jeopardize the quality of service the Program offers its customers, the engineers and scientists of the Corps of Engineers.

Our Corporate Memory Bank

The USACE Library Program has a Collective Corporate Memory of 998.5 years with the Corps of Engineers.
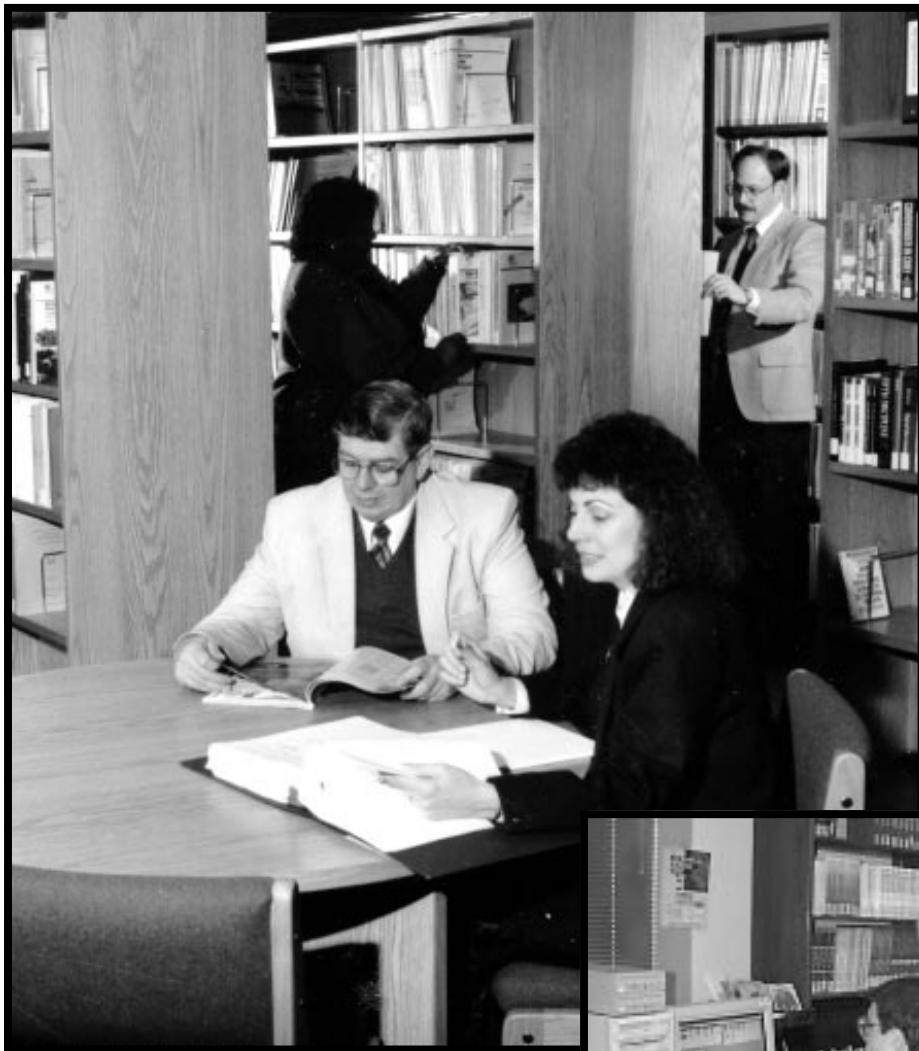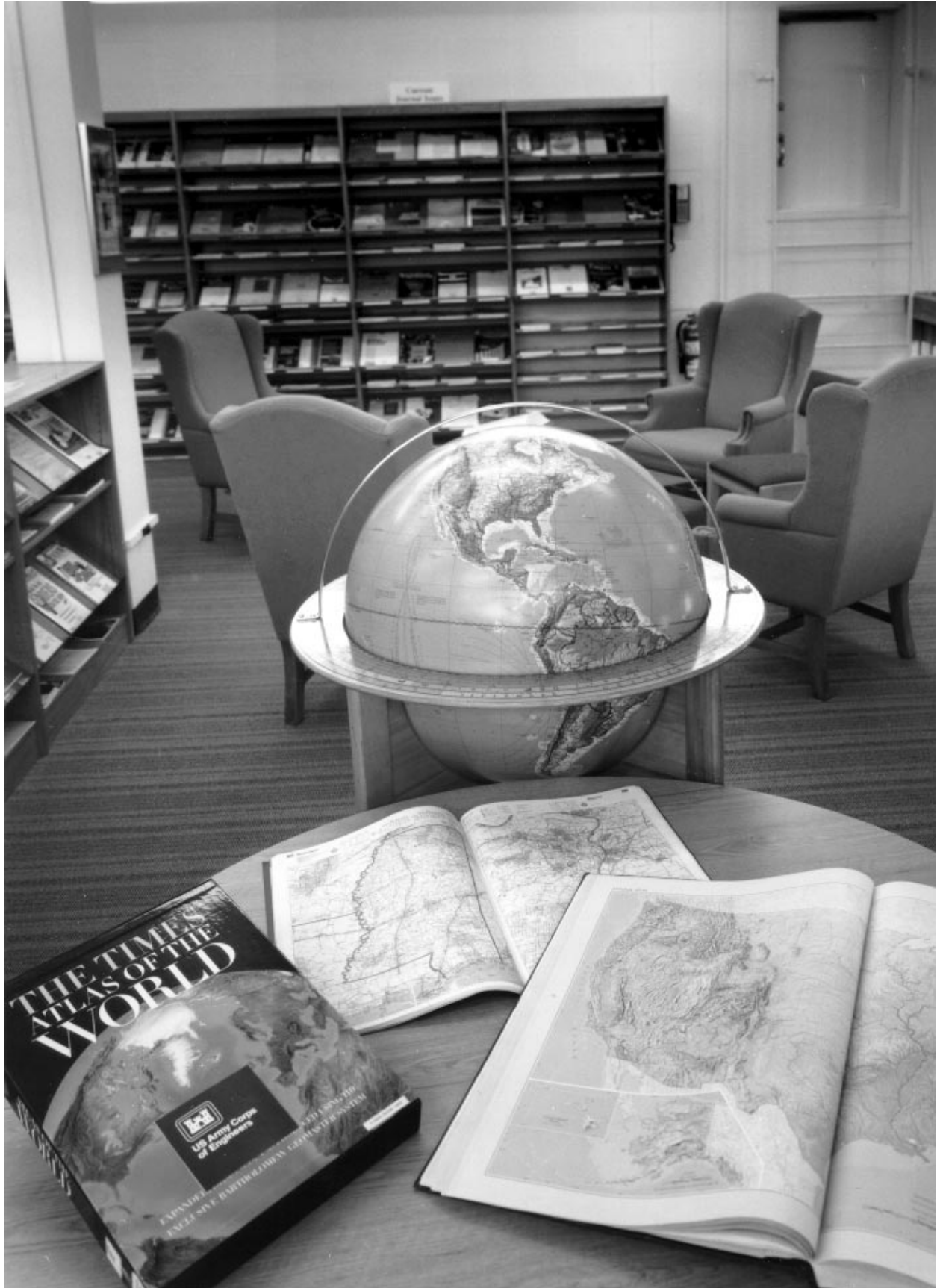
Our FY 96 Accomplishments

- Conducted a PROSPECT Training session on "The Internet as a Reference Tool" for USACE Library Program members. January 1996.

- Sponsored a one-month free trial subscription to Engineering Information Village, an Internet product that included Engineering Index 1979 to date. April 1996.

- Sponsored Corps-wide celebration of National Library Week. April 1996.

- Conducted a workshop on "Libraries — Surviving in Chaos." July 1996.

- Sponsored and updated USACE Library Webpage. 1996.

- Conducted study on cost-effectiveness of COELIS resulting in a decision to convert to a more cost-effective system. 1996.
  System selection and implementation to be complete by 1 May 97.

- Taught Library portion of the PROSPECT Information Mission Area (IMA) Training sessions.

- Assigned Property Account Accountable Officers at all USACE Libraries.

- Produced Annual Report for the Library Program.

Fluid
Mechanics
Measurements

Richard J. Goldstein

Our Plans for FY 97

1. Focus on Customer-Valued Service

    a. Design Library operations, products, and services to be service-driven.

        (1) Begin a benchmarking program to ensure quality and timeliness of services.

        (2) Conduct a Program Workshop on the "Best Practices in Acquisitions and Cataloging."

    b. Design Library operations, products, and services to be customer-focused.

        (1) Survey customers to find out which services they value most and where the Program's emphasis should be placed.

        (2) Market the Library Program's Tactical Plan to all USACE sites without full-library services.

2. Improve Remote Access to Information

    a. Ensure availability of library services to Corps sites that lack trained library personnel.

    b. Ensure Internet access for all Libraries.

    c. Ensure electronic access to Corps Libraries' Union List of Holdings by all Corps employees.

    d. Increase electronic communication with customers through an Internet online lecture and discussion program.

3. Promote Resource Sharing within the USACE Library Network

    a. Launch and promote the Union List of Holdings via the Internet.

    b. Support and publicize the Library Service Centers.

4. Support Professional Staff at all Locations

a. Train Librarians and Library Technicians in new technology in order to meet customer needs.

b. Increase communication with Library Program.

    (1) Promote the Library Program List Serve — try to get everyone within the Program to subscribe and participate.

    (2) Continue to issue "Infoprose" on a quarterly basis.

c. Adopt and publish the Special Libraries Association (SLA) competencies for professional librarians (see Appendix B).

d. Adopt standardized job description and grade structures for Library Service Center staff. Coordinate with Human Resources Offices.

5. Ensure Accountability of Library Property

a. Monitor Library Property Accounts to ensure valuable collections are not being lost during library downsizing or closures.

b. Provide input to the revision of Army Regulation 735-17.

c. Provide guidance on property accountability to librarians and technicians and designated Library Property Account Accountable Officers.

d. Identify and support a central library to maintain the retired holdings of downsized or closing USACE libraries.

6. Maintain Integrity of Information

a. Maintain integrity of database ensuring it is migrated successfully from COELIS to the new Union List of Holdings.

b. Clean up database removing holdings of closed libraries.

c. Maintain integrity of information under contract operations by producing a current checklist of USACE Library functions and services.

d. Revise statistical data collection form for the USACE Library Program. Include clear interpretations with the requirement to maintain accurate and up-to-date statistics.

e. Provide for a DIALOG or OCLC update training session during a Program Workshop.

7. Increase Outreach Activity

a. Increase visibility vis-a-vis Chiefs of Information Management (CIMS), Directors of Information Management (DIMS), and Headquarters (HQ).

   (1) Produce an Annual Report for FY 96 and present to the CIMS and DIMS.

   (2) Produce "Bottom Line" brochure and send to all CIMS, DIMS, and HQ.

   (3) Present short papers at the Information Research Management Working Committee (IRMWC) meetings updating them on the Library Program.

   (4) Conduct weekly conversations between Program Manager and HQs.

   (5) Send electronic updates from Program Manager to HQs.

   (6) Nominate Library Program for Hammer Award upon completion of the migration to new system and local circulation systems.

   (7) Continue to teach the library portion of the IMA classes.

   (8) Prepare calendar of recurring events/deadlines affecting the libraries or Information Management.

b. Increase visibility vis-a-vis library customers.

   (1) Conduct a Program-wide public relations campaign on the cost-effectiveness of libraries.

   (2) Develop a Corps-wide campaign to promote libraries during National Library Week.

   (3) Develop a strawman for Library Focus Groups.

8. Improve Planning and Business Processes

a. Develop and promote a strategic plan for the entire USACE Library Program.

b. Conduct a cataloging study and make recommendations to be more effective in the maintenance of the Union List of Holdings.

c. Identify other business processes that could be a focus for improvement.

d. Determine and publish policy on the involvement of the libraries in book/journal purchases as opposed to library customers using their government VISA cards for such purchases. Determine library's role in new CEFMS procurement environment.

e. Determine feasibility of obtaining funding for a digitization project for the Annual Report to the Chief of Engineers.

f. Explore the possibility of joint work with the Department of the Navy Virtual Library Project.

g. Identify library services provided that are valued by library customers, yet are not given a monetary value amount in the Griffiths and King study. Determine a fair value to be used in calculating the libraries' return on investment rate for these identified services.
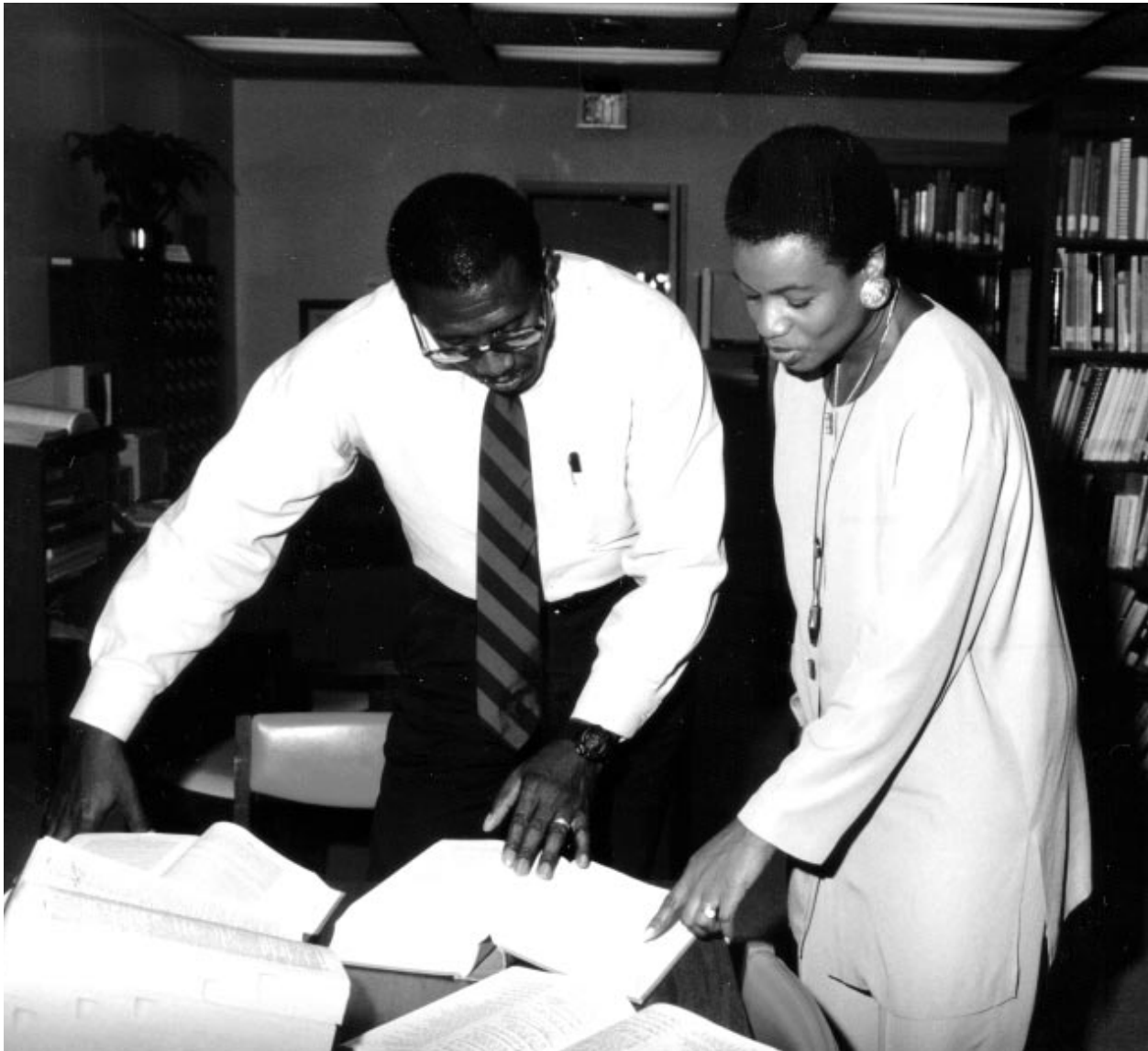
Professional Library Services

Information Search and Retrieval

- Value-Added Online Database Searches
- Value-Added Internet Database Search
- Reference Services
- In-Depth Research
- Bibliographies on Demand

Current Awareness

- Electronic Alert Services
- Journal Routing
- Recent Acquisitions Lists
- Internet Homepage

Maximum Use of Limited Resources

- Interlibrary Loan Services
- Buying "Smartly" for Library Collection
- Obtaining Customer-Requested Materials from Outside Sources "Just In Time."
- Maintaining Exchange Agreements for Technology Transfer

Cost-Effective Management of Resources

- Shared Access to Library Materials
- Electronic Access to Corporate Database of USACE Library-Owned Materials
- Workstation Access to World-Wide Resources Through Innovative Technologies
- Property Accountability

Strategic Plan

"Libraries for the 21st Century"

Within the Corps of Engineers, individual libraries have had long and distinguished histories. The corporate Library Program, as we know it today, was formally established in 1968. On the threshold of its 30th anniversary, the Program is proposing many changes in the way it does business.

Value of Libraries

Libraries are critical to the Corps' success in this Information Age. They can efficiently provide access points to the vast amounts of information available today. By properly managing the collection of Corps-produced reports, they are also the guardians of the Corps' past efforts and legacy.

USACE librarians are experts at providing effective information to their customers, making them critical to the success of the Corps of Engineers' mission. Professional librarians help increase the Corps' information edge, which is defined as the relative gain that can be accomplished through effective use of information by individuals and their parent organization. Abundant evidence exists to prove that library resources should be supported sufficiently to help professionals within the Corps of Engineers maximize their information edge.

Despite the proven importance of a library to an organization, USACE library resources (manpower, collections, physical space, and funding) are being eliminated without consideration of the overall impact on providing timely and accurate information to the Corps' engineers and scientists. The loss of mission-unique information due to library closings or shrinking physical space poses additional problems for current and future Corps missions. In addition, multiple, fragmented, and uncoordinated office collections are often the fiscally wasteful result of a library's downsizing or closure. Libraries can provide information to many customers in the most cost-effective manner. Furthermore, it has been proven that <u>not</u> having a library may cost an organization 2.9 to 7.2 times more than the cost of providing a corporate library.

Environment

Today USACE libraries are facing many challenges:

- Rising costs for materials and services.
- Inadequate budgets.
- Manpower cuts.
- Reductions in physical space.
- Exponential growth in the volume of information.
- Automating information and information services.

In addition, our Program is dealing with:

- Library outsourcing.
- Library closures.
- Libraries without professional librarians.
- Rapid changes in information technology.
- Rising expectations of customers due to improved technology.

USACE libraries are struggling to remain a cost-effective and efficient information resource to the Corps of Engineers within this environment.

Re-Inventing Government

In 1993, President Clinton launched the National Performance Review (NPR) to reinvent government in a smart and efficient way. Under this initiative, he and Vice President Gore set the goals of the NPR as reinventing government by:

- Getting back to the basics.
- Cutting red tape.
- Putting customers first.
- Empowering employees to give their most and best to produce high quality results.
- Powering down decisionmaking to the lowest level to empower teams and communities to solve their own problems.

In answer to the NPR, the USACE Library Program chooses to take a proactive approach to the challenges it faces. The libraries have and will continue to identify opportunities to re-invent their program and to find smarter ways to do business by getting back to basics, cutting red tape, putting customers first, empowering employees to give their best, and powering down the decisionmaking to the lowest level. By re-inventing the Library Program, the goal is to become the leading information navigator and provider for the Corps into the 21st Century.

Vision

The plan for the USACE Library Program presented in the following section has been proposed as the visionary framework developed to enable the Library Program to effectively serve the information needs of the Corps of Engineers into the 21st Century. Operational plans, developed by the USACE Library Program Strategic Planning Team, will provide specific directions toward achieving the Library Program's strategic goals and vision. However, in order to mitigate the current trends, we must approach this vision with a united Command effort. We can no longer afford to solve the problems affecting our libraries in a piece-meal fashion. By working together with this strategic plan, we can ensure full library services to all Corps employees, boost our cost-effectiveness, and continue to increase the information edge for the U.S. Army Corps of Engineers.
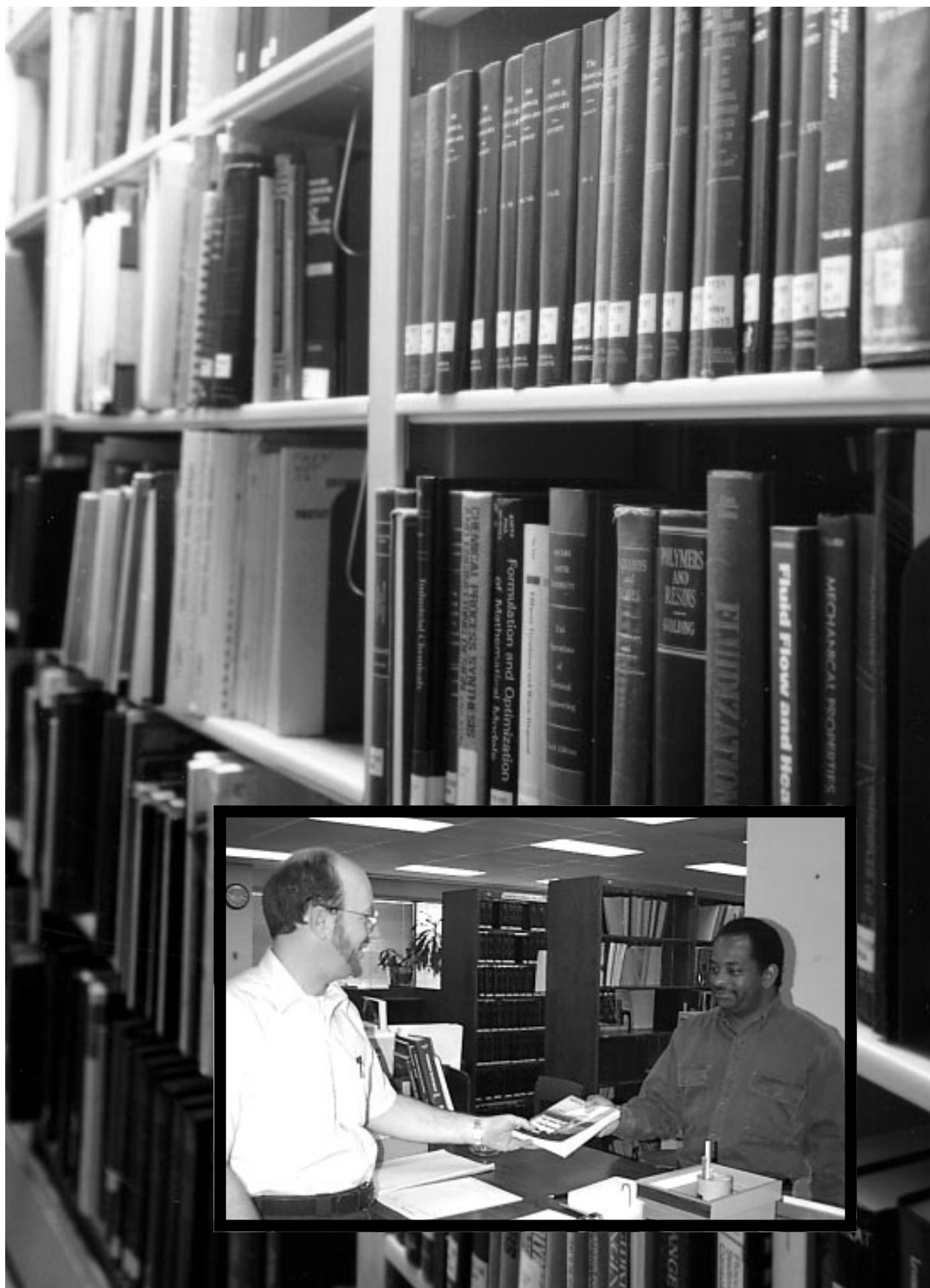
USACE Library Program Vision 2000

By the year 2000, it is envisioned that the following will have been achieved:

Getting Back To Basics

1. The USACE Library Program will have been accepted as the leading information navigator and supplier for all the engineers and scientists within the Corps of Engineers by meeting the needs of the engineers, scientists, researchers, i.e., our customers; and by delivering the information they need, in the time frame they require, for a reasonable price, and in the format they request.

2. The USACE Library Program will have identified consolidated repository libraries to archive all Corps-produced reports.

3. The USACE Library Program will expand resource sharing to include cooperative collection development offering the most value using limited budgets.

Cutting Red Tape

4. The USACE Library Program will have identified centers of library expertise that will be available to provide full library services to other Corps sites on a cost reimbursable basis.

5. The USACE Library Program will have consolidated its acquisitions and cataloging processes.

Putting Customers First

6. The USACE Library Program will have calculated its annual return on investment and will target an increase to this ratio each year.

7. The USACE Library Program will have effective measurement techniques in place, including surveying techniques, to ensure customer satisfaction and cost effectiveness are achieved.

Empowering Employees to Give Their Best to Produce High Quality Results, and Powering Down Decisionmaking to the Lowest Level to Empower Teams and Communities to Solve Their Own Problems

8. The USACE Library Program will benchmark and have effective quality assurance measures in place to establish and identify model libraries and practices.

USACE Library Program Manpower

- Libraries Operated by Librarians
- Libraries Operated by Technicians
- Libraries With No Manpower
- Libraries are Contract Operated
- Libraries Operated by Others
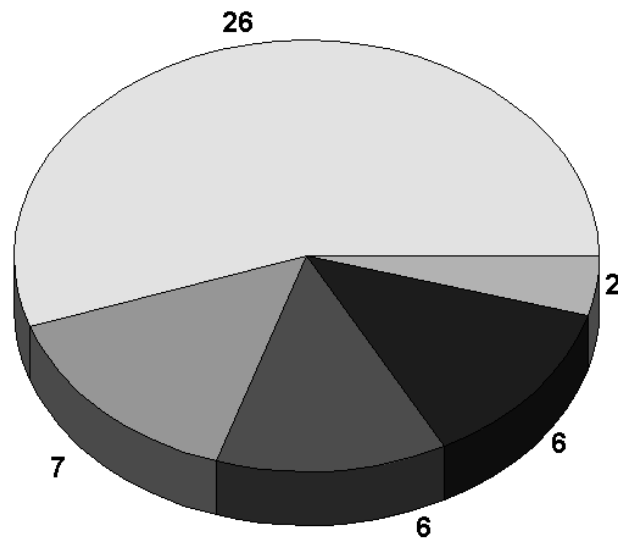
26

2

6

6

7

October 1996

USACE Library Program Manpower

Legend:
- Government Technicians
- Government Librarians
- Contract Librarians
- Contract Technicians
- Other Series

34

3

6

1

40
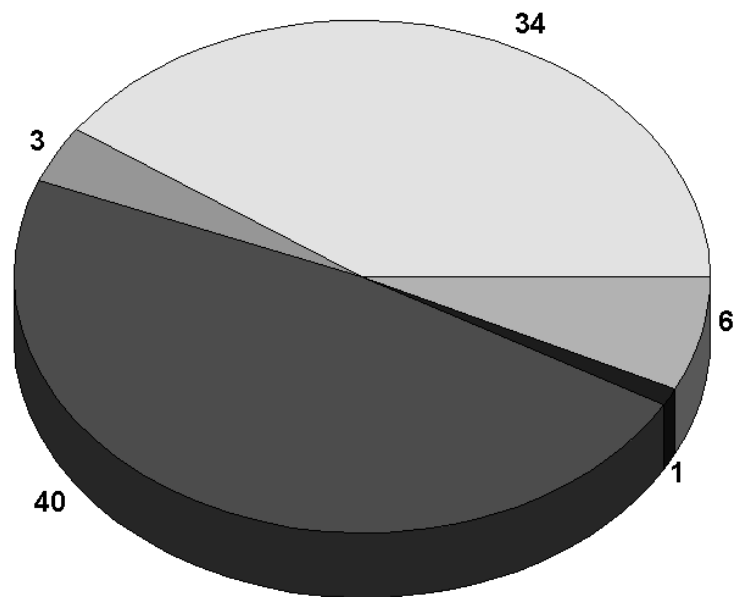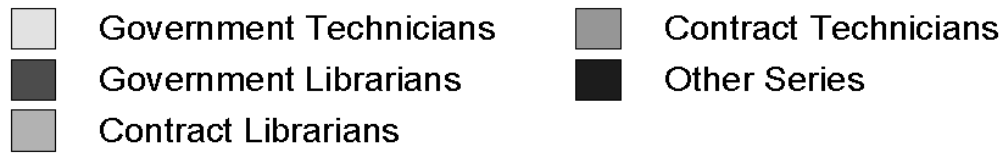
October 1996

USACE Library Program Manpower by Fiscal Year

Location of USACE Libraries

NEW ENGLAND
HANOVER
NEW HAMPSHIRE
Waltham
RHODE ISLAND
CONNECTICUT
New York
NEW JERSEY
DELAWARE
MARYLAND
Philadelphia
DC
Norfolk
Baltimore
Wilmington
VERMONT
MASSACHUSETTS
Buffalo
NEW YORK
NORTH ATLANTIC
PENNSYLVANIA
Pittsburgh
WEST VIRGINIA
Winchester
Alexandria
VIRGINIA
NORTH CAROLINA
Charleston
Savannah
SOUTH CAROLINA
Jacksonville
Detroit
MICHIGAN
INDIANA
OHIO
Cincinnati
Huntington
Louisville
KENTUCKY
Nashville
TENNESSEE
GEORGIA
Atlanta
Huntsville
ALABAMA
SOUTH ATLANTIC
FLORIDA
Mobile
WISCONSIN
ILLINOIS
Chicago
Champaign
St Louis
ARKANSAS
Memphis
LOWER MISSISSIPPI
Little Rock
MISSISSIPPI
LOUISIANA
Vicksburg
New Orleans
Galveston
NORTH CENTRAL
St Paul
Rock Island
MISSOURI
IOWA
Omaha
Kansas City
Tulsa
Fort Worth
Dallas
MINNESOTA
NORTH DAKOTA
SOUTH DAKOTA
NEBRASKA
MISSOURI RIVER
KANSAS
OKLAHOMA
TEXAS
SOUTHWESTERN
MONTANA
WYOMING
COLORADO
NEW MEXICO
Albuquerque
HONOLULU
HAWAII
NORTH PACIFIC
Walla Walla
WASHINGTON
Seattle
Portland
OREGON
IDAHO
NEVADA
CALIFORNIA
SOUTH PACIFIC
UTAH
ARIZONA
Sacramento
San Francisco
Los Angeles
ALASKA
ANCHORAGE
ALEUTIAN ISLANDS

LIBRARY MANAGED BY A LIBRARIAN
LIBRARY MANAGED BY A LIBRARY TECHNICIAN
LIBRARY SERVICE CENTERS
LIBRARY GOVERMENT OWNED, BUT CONTRACT OPERATED
LIBRARY MANAGED BY OTHER SHARED ARRANGEMENTS
NO LIBRARY SERVICE

Appendix A
Study on the Value of Libraries

The 1993 report, "Special Libraries: Increasing the Information Edge," presents accumulated evidence of the usefulness, value, and impact of information, and of the contribution libraries make to their parent organization. The evidence was derived from 27 independent studies performed with 16 companies and 7 government agencies. It included 4 national surveys of professionals representing more than 10,000 statistical survey responses from scientists, engineers, lawyers, management, and other professionals. The study shows that professionals who use information extensively and effectively are more successful than those who do not. Increased productivity and improved quality are among the benefits gained. Furthermore, substantially greater benefits are achieved from information provided through organization libraries. The following quoted information comes from this report:

"On average professionals spend 56 percent of their time communicating. One important role of libraries is to help reduce this communication time so professionals can spend more time making decisions, conducting research, etc. Another role is to ensure that the time devoted to communication activities is spent as efficiently and effectively as possible. Libraries provide better information, faster and less expensively than any other alternative. By satisfying the key information needs of professionals, libraries help increase the productivity, quality, and timeliness of their work, and in the aggregate, the performance of their parent organizations.

"Information is a library's principal product. A sampling of key results demonstrating the usefulness, value and impact of this information includes:

- Professionals report substantial savings as a result of reading; average savings are nearly $500 per reading of journals, books, and internal reports. These savings, relative to the cost of acquiring and using information, yield return-on-investment ratios of about 10.2 to 1.

- Strong evidence exists of other beneficial consequences of reading, including increased productivity, higher quality of work, and improved timeliness of work.

- Achievers recognized through awards, etc. read much more on the average than the non-achievers.

- Professionals' time is a scarce resource. The total time spent acquiring and reading documents is 288 hours or about $11,520 per professional.

- Reading is performed for many purposes. Most reading (60 percent) is directly associated with primary work activities (research, management, etc.). Other purposes are writing, advising and consulting, current awareness, and professional development.

"Professionals use their organization libraries an average of 59 times per year. The average annual cost to organizations for current library services is $1,700 per professional — $610 to operate the library and $1,090 in professionals' time to acquire the library-provided information. Evidence of the return on this investment includes:

- If there were no organization library, it would cost organizations about $5,010 per professional to obtain the library-provided information absolutely required by professionals, or 2.9 times more than it now costs.

- Furthermore, accounting for potential "lost benefits" it could cost about 7.2 times more not to have a library than it does to have one.

- Professionals currently pay about $5,190 in terms of the time they spend acquiring and using library-provided information. The ratio (or the "price users are willing to pay" for library-provided information) to library operating costs is about 8.5 to 1 in the organizations studied.

"Libraries help achieve organization goals by increasing productivity:

- Time and/or other expenditures are saved in more than one-third of professionals' uses of the library.

- Time and/or other expenditures are saved in about 41 percent of readings of library-provided documents.

- Five indicators of user productivity are positively correlated with the amount of library use:
  Formal Reports
  Consultation/Advice
  Formal Presentations
  Proposals and Plans
  Formal Publications

- Five industry-wide studies conducted by others show a positive correlation between information-related expenditures and profit and/or productivity.

"Libraries help organizations perform work with greater quality:

- Professionals indicate that nearly 40 percent of their uses of the library are absolutely essential to their work.
- Professionals indicate that nearly 60 percent of their uses of the library result in improved quality of work.
- Professionals indicate that 57 percent of readings from library-provided documents result in improved quality of work.
- Professionals whose work has been recognized through awards, etc., use libraries more than their non-award winning colleagues.

"Libraries help organizations speed products from discovery to the marketplace:

- Across all activities affecting product lead time, about 38 percent of library uses help professionals perform work faster.
- About 31 percent of readings of library-provided documents lead to completing work faster.

"Abundant evidence provided in this report and others suggests that information and library resources should be supported sufficiently to help professionals and their parent organizations maximize their information edge. Information Edge is the relative gain that can be accomplished through effective use of information by individuals, their organizations, and their countries. This edge can be increased by acquiring accurate and meaningful information in the right dose, when needed and at a reasonable price. Organization libraries and information centers provide specific types of information and information service. Their value is that they can fulfill specific needs and satisfy certain requirements better and less expensively than any other alternative. In so doing, they help increase the information edge of their users. Decisions regarding information and library resources should be made in light of consequences to the entire organization."[1]

Regardless of how one looks at it, a well-run library and professionals who know how to use it can save the Corps of Engineers a significant amount of money.

---

[1] Used with permission of author.

Appendix B
Competencies for Special Librarians for the 21st Century

Written by the Special Libraries Association,
May 1996
Adopted by the USACE Library Program,
November 1996

Competencies have been defined as the interplay of knowledge, understanding, skills and attitudes required to do a job effectively from the point of view of both the performer and the observer. The unique competencies of the special librarian include in-depth knowledge of print and electronic information resources in specialized subject areas and the design and management of information services that meet the strategic information needs of the individual or group being served. In personal career development terms, competencies can also be thought of as flexible knowledge and skills that allow the special librarian to function in a variety of environments and to produce a continuum of value-added, customized information services that cannot be easily duplicated by others.

A. Professional Competencies

1. Expert knowledge of the content of information resources, including the ability to critically evaluate and filter them.
Practical examples: Evaluated print, CD-ROM and online versions of databases. Knows "the best" textbooks, journals and electronic resources in specific areas such as biology, marketing or accounting. Evaluates and selects key information resources, print and electric for a small research center. Sets up a desktop news wire service for a petrochemical company. Controls the over supply of information by selecting what is relevant and usable for the customer. Uses strategic thinking to perform information selection and analysis that meets specific organizational goals.

2. Specialized subject knowledge appropriate to the business of the organization or client.
Practical examples: Many special librarians have subject degrees at the undergraduate and postgraduate levels. Librarians frequently take additional courses in finance, management or other subjects related to their host organization. Maintains a view of the organization's business by reading core journals and other key sources. This enables the development of in-depth, subject specialty information services, including current awareness.

3. Develops and manages convenient, accessible and cost-effective information services that are aligned with the strategic directions of the organization.
Practical examples: Develops a strategic plan linked to the business goals of the organization. Sets up effective management, supervision and budget processes. Builds an effective staff team to manage information services. Conducts intermediary searches for complex, difficult or multifoil searches. Obtains documents in print or electronic form. Builds a core in-house library collection. Analyzes and synthesizes information as required. Develops specialized thesauri and lists of indexing terms for databases.

4. Provides instruction and support for library and information service users.
Practical examples: Teaches Internet courses for employees. Develops specialized end user searching courses on information resources related to current business goals. Keeps up-to-date with latest training and instructional techniques. Provides trouble-shooting service for employees who are accessing information services from the desktop. Provides online reference and assistance.

5. Assesses information needs and designs and markets value-added information services and products to meet identified needs.
Practical examples: Conducts regular needs assessments using research tools such as questionnaires, focus groups and key informant interviews. Reports the results to management and demonstrates the relationship between needs and services provided. Identifies and meets information needs by becoming a member of project teams. Contributes unique or unusual needs assessment findings to the professional literature.

6. Ability to understand and use appropriate information technology to acquire, organize and disseminate information.
Practical examples: Creates an online catalog of the library collection. Links catalog searching to a document delivery service. Works with the information management team to select appropriate software and hardware for desktop access to the library catalog and other databases. Provides a support service for electronic information service users. Keeps up-to-date with new electronic information products and modes of information delivery.

7. Ability to understand and use appropriate business and management approaches to communicate the importance of information services to senior management.
Practical examples: Develops a business plan for the library. Calculates a return on investment for the library and its services. Develops a marketing plan for the library. Conducts a bench marking study. Reports to management on continuous quality improvement efforts. Demonstrates how library and information services add value to the organization. Acts as a resource for the organization on quality management, including ISO 9000 certification.

8. Develops specialized information products for use inside or outside the organization or by individual clients.
Practical examples: Creates databases of in-house documents such as reports, technical manuals or resource materials used for special projects. Creates searchable full-text document files. Mounts online technical manuals created in-house. Creates a home page on the World Wide Web for the organization. Links the home page to other sites of interest on the Internet. Participates in knowledge management activities that create, capture, exchange, use and communicate the organization's "intellectual capital"

9. Evaluates the outcomes of information use and conducts research related to the solution of information management problems.
Practical examples: Gathers data related to needs assessment, program planning and evaluation. Develops measures of frequency of use of services, customer satisfaction and impact of information on organizational decision-making. Actively seeks opportunities for improvement and strives to be the best-in-class on key services such as current awareness, reference and resource sharing. Participates in research projects.

10. Continually improves information services in response to the changing needs.
Practical examples: Monitors industry trends and disseminates information to key people in the organization or to individual clients. Refocuses information services on new business needs. Uses just-in-time document delivery to retain maximum flexibility. Monitors purchases of information products by departments to ensure that they are cost effective and aligned with current business needs.

11. Is an effective member of the senior management team and a consultant to the organization on information issues.
Practical examples: Participates in strategic planning in the organization. Participates in bench marking or re-engineering teams. Informs management on copyright issues and monitors compliance with copyright law. Negotiates contracts with database vendors. Obtains patent information. Develops information policies for the organization.

B. Personal Competencies

   1. Commitment to service excellence.
Practical examples: Seeks out performance feedback and uses it for continuous improvement. Conducts regular user surveys. Asks library users if they found what they were looking for. Celebrates own success and that of others. Takes pride in a job well done. Shares new knowledge with others at conferences and in the professional library literature. Uses the research knowledge base of special librarianship as a resource for improving services.

   2. Seeks out challenges and sees new opportunities both inside and outside the library.
Practical examples: Takes on new roles in the organization that require an information leader. Uses library-based knowledge and skills to solve a variety of information problems in a wide range of settings, both for individuals or for organizations. Does not limit the library collection or the information search to traditional media such as books and journals.

   3. Ability to see the big picture.
Practical examples: Recognizes that information-seeking and use is part of the creative process for individuals and for organizations. Sees the library and its information services as part of the bigger process of making informed decisions. Monitors major business trends and world events. Anticipates trends and pro-actively realigns library and information services to take advantage of them.

   4. Looks for partnerships and alliances.
Practical examples: Seeks alliances with management information systems (MIS) professionals to optimize complementary knowledge and skills. Provides leadership on the information management team. Forms partnerships with other libraries or information services inside or outside the organization to optimize resource sharing. Seeks alliances with database vendors and other information providers to improve products and services. Seeks alliances with researchers in faculties of library and information studies to conduct research.

   5. Creates an environment of mutual respect and trust.
Practical examples: Treats others with respect and expects to be treated with respect in return. Knows own strengths and the complementary strengths of others. Delivers on time and on target and expects others to do the same. Creates a problem-solving environment in which everyone's contribution is valued and acknowledged.

6. Develops effective communications skills.
Practical examples: Listens first and coaches staff and others to develop their own solutions. Supports and participates in mentorship programs and succession planning. Runs meetings effectively. Presents ideas clearly and enthusiastically. Writes clear and understandable text. Requests feedback on communications skills and uses it to make improvements.

7. Develops the ability to work well with others in a team.
Practical examples: Learns about the wisdom of teams and seeks out opportunities for team participation. Takes on responsibility in teams both inside and outside the library. Mentors other team members. Asks for mentoring from others when it is needed. Constantly looks for ways to enhance own performance and that of others through formal and informal learning opportunities.

8. Provides leadership.
Practical examples: Learns about and cultivates the qualities of a good leader and knows when to exercise leadership. Can share leadership with others or allow others to take the leadership role. Exercises leadership within the library and as a member of other teams or units within the organization. Acknowledges the contribution of all members of the team.

9. Plans, prioritizes and focuses on what is critical.
Practical examples: Recognizes that in order to use resources most effectively, that ongoing, careful planning is required. Develops an approach to planning and time management that incorporates personal and professional goals. Reviews goals on a regular basis, prioritizes them and makes sure that an appropriate proportion of daily activities are related to the most critical personal and professional goals. Mentors others to do the same.

10. Committed to lifelong learning and personal career planning.
Practical examples: Committed to a career that involves ongoing learning and knowledge development. Takes personal responsibility for long-term career planning and seeks opportunities for learning and enrichment. Advocates for an approach that encourages and supports ongoing knowledge development and that values the contribution of people. Maintains a strong sense of self-worth based on the achievement of a balanced set of evolving personal and professional goals.

11. Develops personal business skills and creates new opportunities. Practical examples: Recognizes that, in the changing world of work, entrepreneurship and the ability to function as a small business professional are essential skills. Seeks out opportunities to develop these skills. Willing to take employment in a variety of forms including full-time, contract and project work. Uses the entrepreneurial spirit in the organizational environment to revitalize products and services.

12. Recognizes the value of professional networking and solidarity. Practical examples: Active in SLA and other professional associations. Uses these opportunities to share knowledge and skills, to bench mark against other information service providers and to form partnerships and alliances. Recognizes the need for a forum where information professionals can communicate with each other and speak with one voice on important information policy issues, such as copyright and the global information infrastructure.

13. Flexible and positive in a time of continuing change.
Practical examples: Willing to take on different responsibilities at different points in time and to respond to changing needs. Maintains a positive attitude and helps others to do the same. Never says it cannot be done. Looks for solutions. Helps others to develop their new ideas by providing appropriate information. Always on the lookout for new ideas. Sees and uses technology as an enabler of new information ideas, products and services.

These are the competencies of special librarians for the 21st century. They have their roots in the past, but they reach far into the future. Special librarians recognize the expanding nature of the challenges that face them in the information age and the range of competencies that are required to meet them. The opportunities presented by these challenges must be seized and acted upon today in order to ensure that special librarians have a viable tomorrow.